COVER SHEET

TEST PROCEDURE PREPARATION:

Prepared by: _____ Date: _____
TDA Organization and Code

TEST PROCEDURE REVIEW:

Reviewed by: _____ Date: _____
TDM Organization and Code

DOCUMENTATION CERTIFICATION:

Approved by: _____ Date: _____
TDD Organization and Code

REVISION RECORD

REV/CHG	DESCRIPTION	Approval INITIAL	Approval DATE
-	Original Issue	FES	14 AUG 98
A	Incorporated shipyard changes.	FES	18 DEC 98
B	Incorporates TPR 7207-086-C dtd. 07/01/99	FES	06 JAN 00

LIST OF EFFECTIVE PAGES

PG-REV	PG-REV	PG-REV	PG-REV	PG-REV	PG-REV	PG-REV
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8 - B	9 - B	10 - B	11 - B	12 - B	13 - B	14 - B
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TEST OUTLINE

1. OBJECTIVE:

   To verify that the SB-4229A(V)11/SP Radar Signal Distribution Switchboard (SB-4229A(V)11/SP RSDS) installed within a MT-7085/U Electrical Equipment Rack (MT-7085/U Rack) provides power distribution and is operating properly during initial light-off.

2. ESTIMATED TESTING TIME:

   4 hours

3. REFERENCES:

   SE245-AE-MMO-A10, Technical Manual, for the Radar Signal Distribution Switchboard SB-4229A(V)11/SP

4. TEST OR SUPPORT EQUIPMENT AND MATERIAL:

GENERIC NAME	QUANTITY	IDENTIFYING INFORMATION
a. Frequency Counter	1	SCAT 4296 or equivalent
b. Multimeter, Digital	1	SCAT 4237 or equivalent

5. COMPUTER PROGRAMS REQUIRED:

   None

6. PREREQUISITES:

   32011-2-001 Power Distribution System Insulation Resistance Test

7. SPECIAL CONDITIONS AND SERVICES:

   115 VAC, 1 ϕ, 60 Hz Power

8. EQUIPMENT INVOLVED IN TEST:

   a. CD-135/U, Controller, Tracking Data (CD-135/U Controller) (Optional Equipment installed by Engineering Change, EC-6)
   b. MT-7085/U Rack
   c. RD-670/U, Recorder-Reproducer (RD-670/U RADCOR) (Optional Equipment installed by EC-9)
   d. SB-4229A(V)11/SP RSDS
   e. SM-902/U, Simulator, Video Signal (SM-902/U VSS) (Optional Equipment installed by EC-8)

TEST OUTLINE

9. CONFIGURATION:

EQUIPMENT	NOMENCLATURE	ALLOWANCE PARTS LIST (APL)
a. SB-4229A(V)11/SP W/EC1	SB-4229A(V)11/SP RSDS with EC-1	00037332
b. SB-4229A(V)11/SP EC6	SB-4229A(V)11/SP RSDS with EC-6	00037375
c. SB-4229A(V)11/SP EC8	SB-4229A(V)11/SP RSDS with EC-8	00037377
d. SB-4229A(V)11/SP EC9	SB-4229A(V)11/SP RSDS with EC-9	00037378
e. MT-7085/U	MT-7085/U Rack installed by EC-1	00036958
f. CD-135/U	CD-135/U Controller installed by EC-6	00036956
g. SM-902/U	SM-902/U VSS installed by EC-8	00036957
h. RD-670/U	RD-670/U RADCOR installed by EC-9	00036959

10. METHOD:

A visual inspection of the equipment will be conducted to ensure that it is free of damage, debris and loose wire connections. Ensure input and power supply voltage levels are within tolerance. Verify that indicator lamps are lit for specified equipment.

11. STATION ASSIGNMENTS:

STATION	NO. PERSONNEL	COMMENTS
SB-4229A(V)11/SP RSDS	2 Electronic Technicians	Performs ILO Test

SAFETY INSTRUCTIONS

a. The operation of this equipment involves the use of high voltages that are dangerous to life. Extreme caution must be exercised at all times. Do not work on open or disassembled units when power is applied.

b. Turning OFF the MT-7085/U Rack Power Distribution Unit (PDU) by using the power circuit breaker or switch does not remove the ship 115 VAC.

c. MT-7085/U Racks containing an Uninterruptible Power Source (UPS) may retain 115 VAC on UPS associated equipment when power is removed from the MT-7085/U Rack or the UPS circuit breaker is in the OFF position.

INITIAL CONDITIONS AND SETUP

STEP	STATION	INSTRUCTIONS
1	SPDP	Turn OFF and tag Main Circuit Breaker at Ship Power Distribution Panel (SPDP).
2	MT-7085/U Rack	Open the equipment enclosure's front door.
3	MT-7085/U Rack	Inspect equipment for: Presence of foreign matter. Loose cables and cable connections. Damaged or chaffed cable insulation. Loose or missing protective covers. Loose modules, fastening hardware or circuit cards NOTE This procedure is written in a manner that addresses the SB-4229A(V)11/SP RSDS EC's that can be installed within the MT-7085/U Rack. The equipment and test steps that apply are listed below. Omit test steps for hardware that is not installed.

Equipment	Test Steps
SB-4229A(V)11/SP RSDS	9-14
MT-7085/U Rack	1, 2, 4, 6, 8, 15-17, 24, 28, 30-32
CD-135/U Controller	29, 33-41
SM-902/U VSS	18-23
RD-670/U RADCOR	25-27

4	MT-7085/U Rack	Set the following switches and breakers to OFF position (See Figure 1A or 1B): a) Power switch on CD-135/U Controller 748i computer is not depressed. b) OUTPUT switch on CD-135/U Controller UPS. c) INPUT switch on CD-135/U Controller UPS. d) AC POWER switch on SM-902/U VSS. e) Power switch on RD-670/U RADCOR Recorder. f) Power Supply module switches of both the Upper and Lower SB-4229A(V)11/SP RSDS chassis.

INITIAL CONDITIONS AND SETUP

STEP	STATION	INSTRUCTIONS
		g) AC PWR switch on both the Upper and Lower SB-4229A(V)11/ RSDS Master Control Panel. h) AUX. switch on PDU. i) SWITCHER switch on PDU. j) RADCOR switch on PDU. k) VSS switch on PDU. l) MAIN POWER, CB3 circuit breaker on PDU. m) SWITCH BD POWER, CB2 circuit breaker on PDU. n) UPS POWER, CB1 circuit breaker on PDU. CAUTION Switchboard modules are Electrostatic Discharge Sensitive (ESD). Observe ESD precautions while handling.
5	SB-4229A(V)11/SP RSDS	Loosen fasteners and remove the Controller module from the SB-4229A(V)11/SP RSDS Upper chassis. (See Figure 1A or 1B) Set the Controller module internal and front panel switches. (See Figures 2 and 3). NOTE Figures of dip switches shaded in black are shown in the set position. Internal switches: S9, S10, S11, S12, S13, S14, S15, and S16 as shown in Figure 2. Set Panel switches as shown in Figure 3: Input 10 Input 1 Output 10 Output 1 LCL/RMT 1-8 LCL/RMT 9-16 LCL/RMT 17-24
6	SB-4229A(V)11/SP RSDS	Reinstall the Controller module securing fasteners.

INITIAL CONDITIONS AND SETUP

STEP	STATION	INSTRUCTIONS
7	SB-4229A(V)11/SP RSDS	Loosen fasteners and remove Configuration module from the SB-4229A(V)11/SP RSDS Upper chassis. (See Figure 1A or 1B). Set Configuration module internal switches (See Figure 4). Set Internal switches as shown in Figure 4: S1, S2, S3, S4, S5, S6, S7, S8, S9, S10, S11, S12, S13, S14, S15, S16, S17, S18, S19, S20, S21, S22, S23, S24.
8	SB-4229A(V)11/SP RSDS	Reinstall Configuration module securing fasteners.
9		Repeat steps 5 thru 8 for the Controller and Configuration modules located in SB-4229A(V)11/SP RSDS Lower chassis (See Figure 1A or 1B).
10		Repeat steps 1-9 on second SB-4229A(V)11/SP RSDS Rack. Perform steps as required based on the equipment installed in the MT-7085/U Rack.

INITIAL CONDITIONS AND SETUP

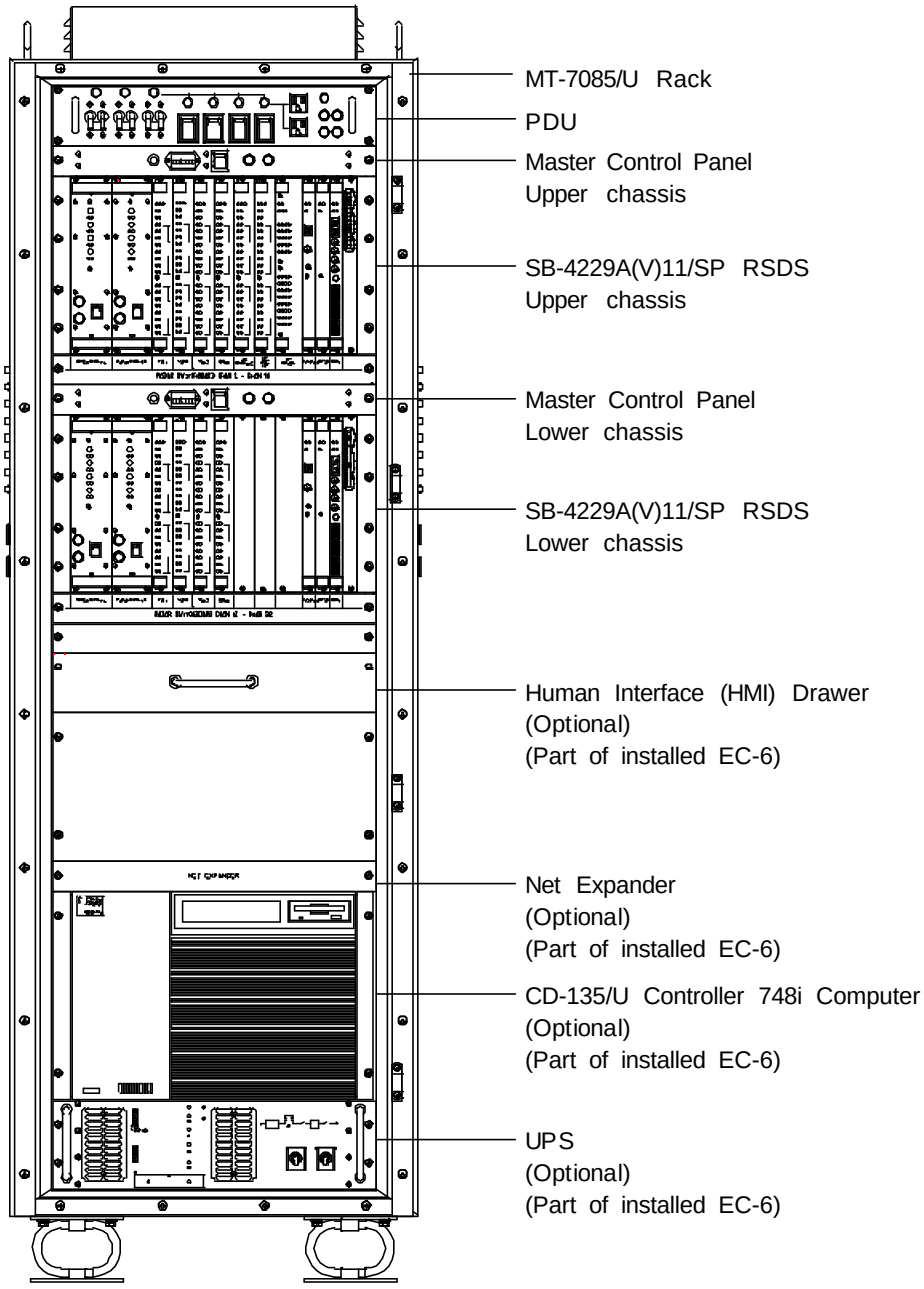

Figure 1A. SB-4229A(V)11/SP RSDS

INITIAL CONDITIONS AND SETUP

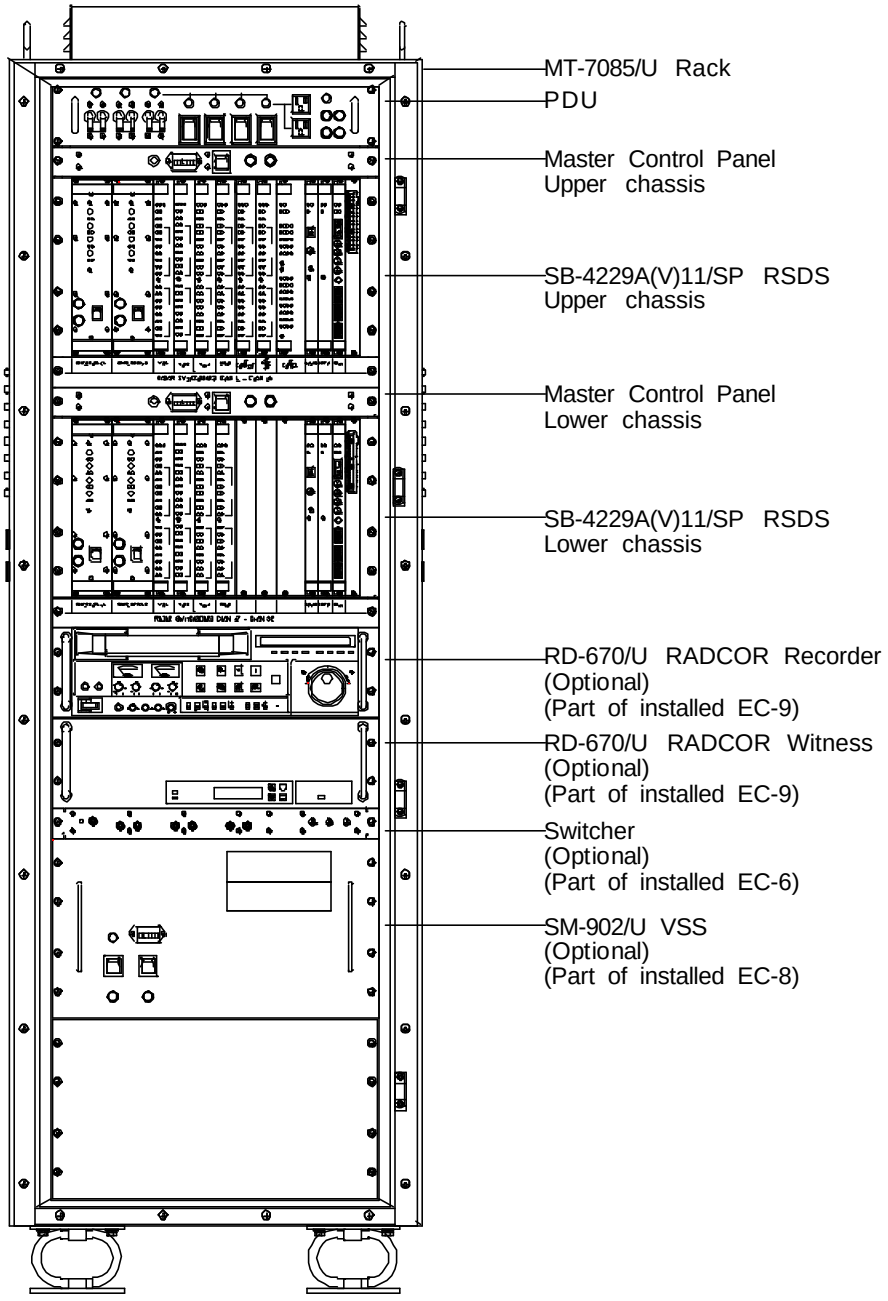

Figure 1B. SB-4229A(V)11/SP RSDS

INITIAL CONDITIONS AND SETUP

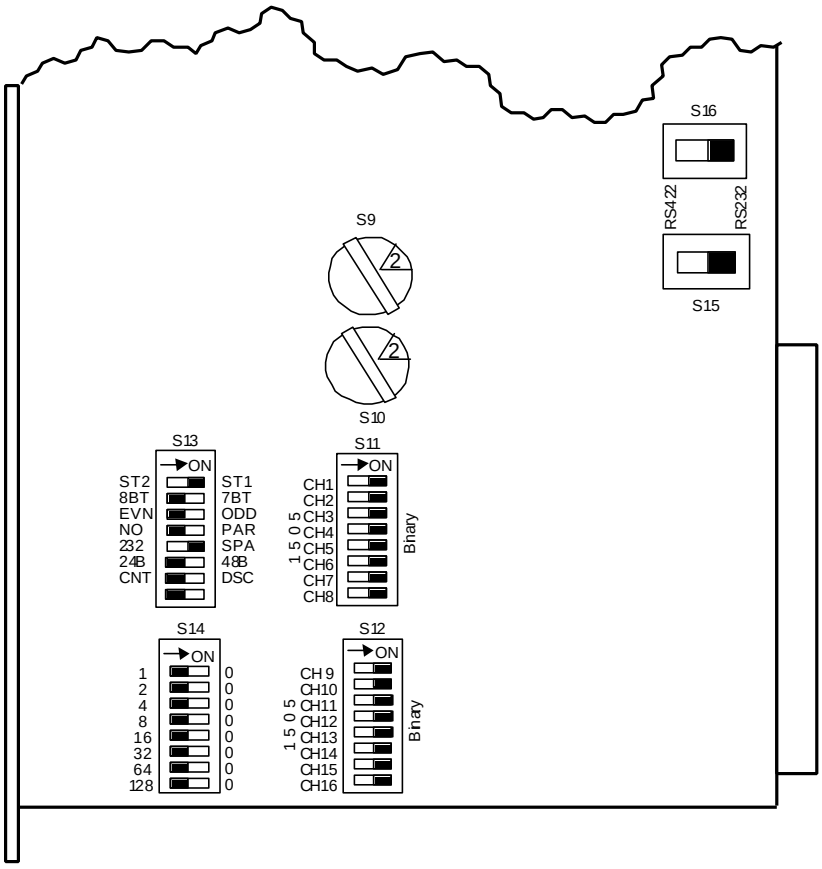

Figure 2. Upper and Lower Controller Module Switch Settings

INITIAL CONDITIONS AND SETUP

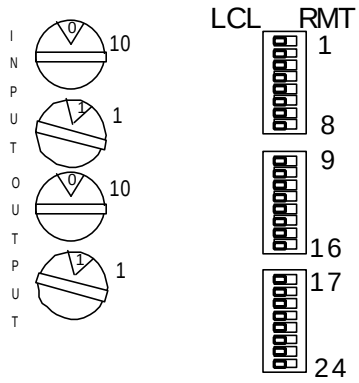

Figure 3. Upper and Lower Controller Module Front Panel Switch Settings

SWITCH	CHANNEL FUNCTION	POSITION
S1	RADDS CH1	1
S2	RADDS CH2	2
S3	RADDS CH3	3
S4	RADDS CH4	4
S5	RADDS CH5	5
S6	RADDS CH6	6
S7	RADDS CH7	7
S8	RADDS CH8	8
S9	RADDS CH9	9
S10	RADDS CH10	A
S11	RADDS CH11	B
S12	RADDS CH12	C
S13	RADDS CH13	D
S14	RADDS CH14	E
S15	RADDS CH15	F
S16	RADDS CH16	0
S17	IFF CH1	1
S18	IFF CH2	2
S19	IFF CH3	3
S20	IFF CH4	4
S21	IFF CH5	5
S22	IFF CH6	6
S23	IFF CH7	7
S24	IFF CH8	8

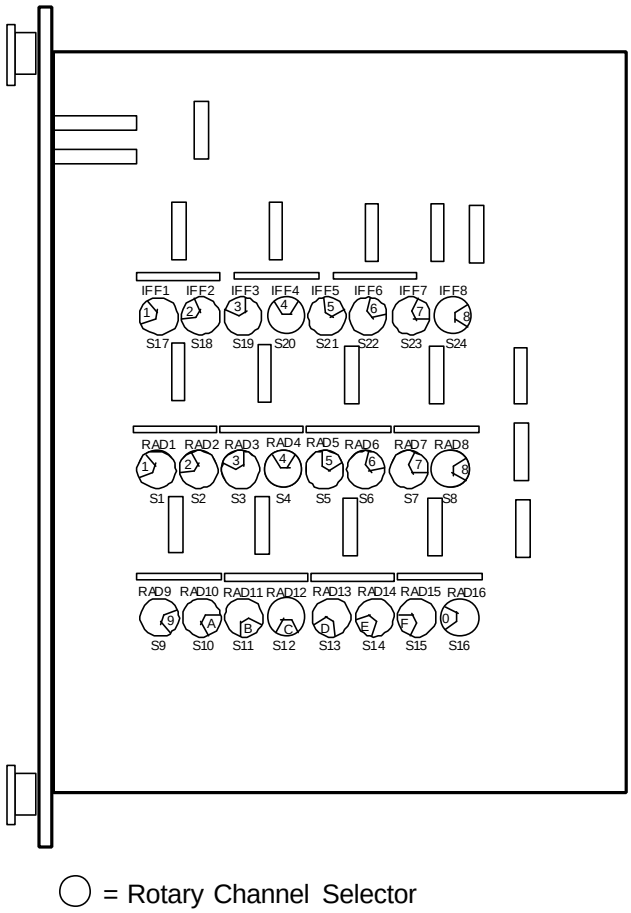

Figure 4. Upper And Lower Configuration Module Switch Settings

TESTING STEPS

STEP	STATION	INSTRUCTIONS
		NOTE This ILO procedure includes steps that encompass all of the SB-4229A(V)11/SP RSDS Rack mounted equipment. Certain steps will be required to be repeated to accomplish ILO for both SB-4229A(V)11/SP RSDS Rack. There are separate Data Recording Sheets for each SB-4229A(V)11/SP RSDS Rack. Complete each of the Test Data Recording sheets as applicable. Additionally, test steps should only be performed for those equipment options that are installed. Steps that do not apply due to equipment being located in a separate SB-4229A(V)11/SP RSDS Rack or equipment options that are not installed should be completed with "N/A".
1	MT-7085/U Rack	Disconnect AC Input cable to J199 connector on the enclosure rear panel.
2	SPDP	Remove tag and turn ON Main Circuit Breaker at SPDP.
3	MT-7085/U Rack	Verify the following cable voltages and frequency: Contact — Signal Designation A to C — 105 VAC to 125 VAC B to Chassis Ground — < 1 VAC A to C — ≥50 to ≤63 Hz RECORD on Test Data Recording sheet.
4	SPDP	Turn OFF and tag Main Circuit Breaker at SPDP.

TESTING STEPS

STEP	STATION	INSTRUCTIONS
5	MT-7085/U Rack	Reconnect AC Input cable to J199.
6	SPDP	Remove tag and turn ON Main Circuit Breaker at SPDP.
7	MT-7085/U Rack PDU	Turn ON CB2, SWITCH BD POWER circuit breaker. Observe CB2 indicator is Lit. RECORD on Test Data Recording sheet.
8	SB-4229A(V)11/SP RSDS	Turn ON: (a) AC PWR switch above Upper and Lower chassis. (b) Individual Power Supply module switches for both power supplies in Upper and Lower chassis. Observe indicators are lit. RECORD on Test Data Recording sheet.
9	SB-4229A(V)11/SP RSDS	Observe front panel LEDs on Power Supply module 1 and 2 are lit. (See Figure 5). RECORD on Test Data Recording sheet.
10	SB-4229A(V)11/SP RSDS	Observe front panel CONT and PWR LED's are lit on all chassis modules excluding Power Supply modules. RECORD on Test Data Recording sheet.
11	SB-4229A(V)11/SP RSDS	Turn OFF Power Supply module 2 (PS2) switch on both the Upper and Lower chassis and use a Digital Multimeter to monitor voltages at test points located on the front panel of Power Supply module 1 (PS1). Expected voltages and acceptable tolerances are as follows. Test Point — Expected Value +5V — +4.87 VDC to +5.39 VDC -5V — -4.87 VDC to -5.39 VDC +15V — +13.24 VDC to +14.64 VDC -15V — -13.24 VDC to -14.64 VDC

TESTING STEPS

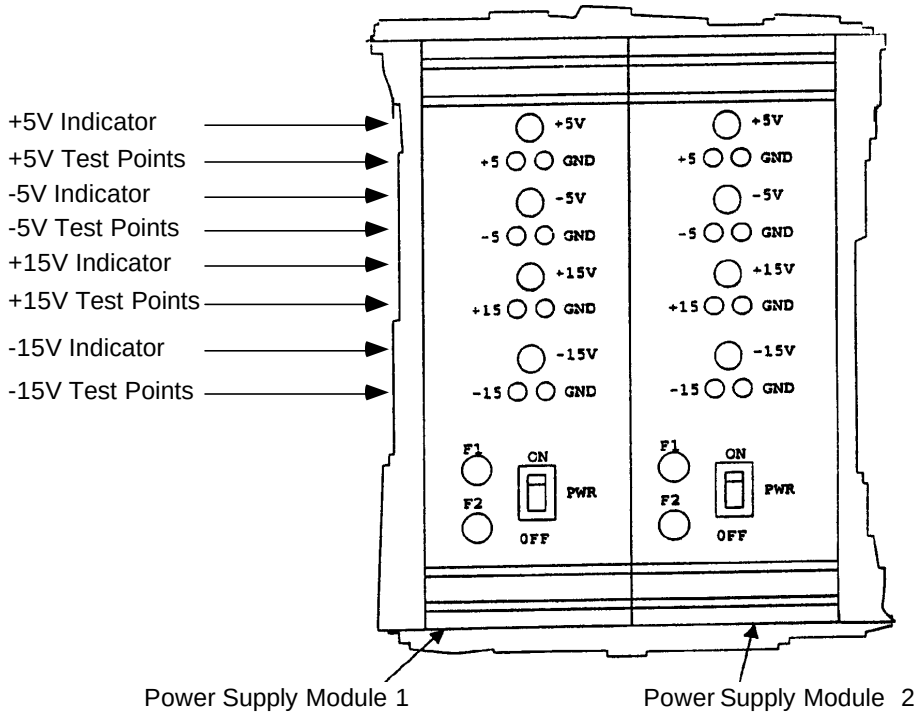

Figure 5. Power Supply Module

STEP	STATION	INSTRUCTIONS
		NOTE Connect the common black lead to a ground (GND) test point and measure the test points indicated.
		NOTE Test voltages are ±13.5V not ±15V as marked on the Power Supply module front panels. RECORD on Test Data Recording sheet.
12	SB-4229A(V)11/SP RSDS	Repeat the measurements of step 11 on the front panel test points for PS2 with PS2 ON and PS1 OFF for both Upper and Lower chassis. RECORD on Test Data Recording sheet.

TESTING STEPS

STEP	STATION	INSTRUCTIONS
13	SB-4229A(V)11/SP RSDS	Turn ON PS1 for both Upper and Lower chassis and disconnect Digital Multimeter test leads from Power Supply module. NOTE The following test steps are for optional equipment that may be installed in the SB-4229A(V)11/SP RSDS Rack. Perform required test steps in accordance with the equipment configuration.
14	MT-7085/U Rack PDU	Turn ON MAIN POWER (CB3) circuit breaker and ensure indicator is lit. RECORD on Test Data Recording sheet.
15	MT-7085/U Rack PDU	Ensure FANS Indicator is lit and both fans located on top of MT-7085/U Rack are exhausting air. RECORD on Test Data Recording sheet.
16	MT-7085/U Rack PDU	Turn ON VSS (S1) switch and ensure indicator is lit. RECORD on Test Data Recording sheet.
*17	SM-902/U VSS	Remove and store 8 cup-head screws from front panel. Pull handles to extend SM-902/U VSS unit on slides to allow access to top cover panel. CAUTION DO NOT remove the 6 Phillips head screws that span across middle of top cover.
*18	SM-902/U VSS	Remove and store cover panel with fastening hardware. To prevent captive screws from galling and binding, loosen 10 outer screws evenly around top perimeter.
*19	SM-902/U VSS	Turn ON AC POWER switch and ensure ON lamp is lit. RECORD on Test Data Recording sheet.

* Step not applicable if equipment is not part of the SB-4229A(V)11/SP RSDS Configuration.

TESTING STEPS

STEP	STATION	INSTRUCTIONS
*20	SM-902/U VSS	Ensure the following LEDs on circuit card assembly front panels meet the following conditions. a) Slot 1A1 P-FAIL ON (Green) B-BUSY OFF BERR OFF b) Slot 1A2 RUN ON (Green) c) RADDS Slots 1A5 and 1A11 SIM ON TM ON TE ON TMT ON RADDS OUT ON AIR OFF SUR OFF d) TARGET Slots 1A6 and 1A12 SIM ON TM ON TE ON TMT ON LIVE IN OFF LAND IN OFF TARG OUT OFF e) IFF Slots 1A7 and 1A13 SIM ON TM ON TE ON TMT ON MTC IN OFF TR IN OFF MTC OUT OFF TR OUT OFF RECORD on Test Data Recording sheet.

* Step not applicable if equipment is not part of the SB-4229A(V)11/SP RSDS Configuration.

TESTING STEPS

STEP	STATION	INSTRUCTIONS
*21	SM-902/U VSS	Replace cover panel and push on handles to insert the chassis into enclosure. To prevent captive screws from galling and binding, tighten each screw evenly around top perimeter.
*22	SM-902/U VSS	Reinstall unit into enclosure and replace the 8 cuphead screws on front panel.
23	MT-7085/U Rack PDU	Turn ON the RADCOR (S2) switch and ensure indicator is lit. RECORD on Test Data Recording sheet.
*24	RD-670/U RADCOR Witness	Ensure Witness Indicator/Display are as follows upon completion of unit's self-test. Indicator/Display — Status Power — Indicator lit Green Health INPUT — Indicator lit Red Health OUTPUT — Indicator lit Green DSQM LCD Display — Displays "TRIGGER INPUT SLOT 7 FAILED" RECORD on Test Data Recording sheet.
*25	RD-670/U RADCOR Recorder	Set Power switch to ON.
*26	RD-670/U RADCOR Recorder	Ensure EJECT button, AUDIO LEVEL meters, and Time counter display are lit. RECORD on Test Data Recording sheet.
27	MT-7085/U Rack PDU	Turn ON SWITCHER (S3) switch and ensure indicator is lit. RECORD on Test Data Recording sheet.
*28	CD-135/U Controller Switcher	Ensure Power ON Indicator is lit. RECORD on Test Data Recording sheet.
29	MT-7085/U Rack PDU	Turn ON AUX (S4) switch and ensure indicator is lit. RECORD on Test Data Recording sheet.

* Step not applicable if equipment is not part of the SB-4229A(V)11/SP RSDS Configuration.

TESTING STEPS

STEP	STATION	INSTRUCTIONS
30	MT-7085/U Rack PDU	Turn OFF AUX (S4) switch and ensure indicator is extinguished. RECORD on Test Data Recording sheet.
31	MT-7085/U Rack PDU	Turn ON UPS POWER (CB1) circuit breaker and ensure indicator is Lit. RECORD on Test Data Recording sheet.
*32	CD-135/U Controller UPS	Turn ON INPUT POWER switch and ensure OK indicator is lit and BATTERY CHARGE % LEDs indicate 100%. RECORD on Test Data Recording sheet.
*33	CD-135/U Controller UPS	Turn ON OUTPUT POWER switch and ensure OK indicator is lit. RECORD on Test Data Recording sheet.
*34	CD-135/U Controller NetExpander	Remove front panel and ensure NetExpander Power switch is ON. Replace front panel.
*35	CD-135/U Controller HMI Drawer	Loosen 2 front panel captive screws then pull handles to extend HMI drawer on slides. Turn ON monitor by tilting monitor's viewing angle upwards from the horizontal position.
*36	CD-135/U Controller 748i Computer	Remove and store 4 cup-head screws from front panel. Pull handles to extend the 748i Computer on slides and ensure both rear Power Supply switches are ON.
*37	CD-135/U Controller 748i Computer	Push handles to retract the 748i Computer on slides and fasten. Replace 4 front panel cup-head screws.
*38	CD-135/U Controller 748i Computer	Set Power switch to ON and ensure power indicator is lit. Proceed immediately to next step to monitor system initialization. RECORD on Test Data Recording sheet.

* Step not applicable if equipment is not part of the SB-4229A(V)11/SP RSDS Configuration.

TESTING STEPS

STEP	STATION	INSTRUCTIONS
*39	CD-135/U Controller HMI Drawer	Observe system initialization on video monitor and ensure the following are displayed: Initializing System OK Starting Networking OK Starting System Functions OK Starting Diagnostics OK Starting Auditing OK RECORD on Test Data Recording sheet.
*40	CD-135/U Controller HMI Drawer	Ensure Login Window is displayed.
41		Repeat steps 1-40 on second SB-4229A(V)11/SP RSDS Rack. Perform steps as required based on optional equipment installed within MT-7085/U Rack.

* Step not applicable if equipment is not part of the SB-4229A(V)11/SP Configuration.

SHUTDOWN AND SECURING

STEP	STATION	INSTRUCTIONS
*1	CD-135/U Controller HMI Drawer	Enter Login "shutdown" followed by the ENTER key.
*2	CD-135/U Controller HMI Drawer	Verify "Halted, you may now cycle power" message. (The Halt System process takes approximately 1 minute for Halt message to appear.)
3	SB-4229A(V)11/SP RSDS	Turn OFF. (a) Individual Power Supply module switches for both power supplies in Upper and Lower chassis. (b) AC PWR switch above Upper and Lower chassis.
4	MT-7085/U Rack PDU	Set CB2, SWITCHBD POWER circuit breaker to OFF position.
*5	CD-135/U Controller 748i Computer	Set 748i Computer power switch to OFF and verify power indicator is extinguished.
*6	CD-135/U Controller UPS	Set UPS OUTPUT Power switch to OFF position and verify output indicator is extinguished.
*7	CD-135/U Controller UPS	Set UPS INPUT Power switch to OFF position and verify input indicator is extinguished.
8	MT-7085/U Rack PDU	Set UPS (CB1) circuit breaker to OFF position and verify indicator is extinguished.
9	MT-7085/U Rack PDU	Set SWITCHER (S3) switch to OFF position and verify indicator is extinguished.
*10	RS-670/U RADCOR Recorder	Set Power switch to OFF position and verify EJECT button, AUDIO LEVEL meters and Time counter displays are extinguished.
11	MT-7085/U Rack PDU	Set RADCOR (S2) switch to OFF position and verify indicator is extinguished.

* Step not applicable if equipment is not part of the SB-4229A(V)11/SP Configuration.

SHUTDOWN AND SECURING

STEP	STATION	INSTRUCTIONS
*12	SM-902/U VSS	Set AC Power switch to OFF position and verify power indicator is extinguished.
13	MT-7085/U Rack PDU	Set VSS (S1) switch to OFF position and verify indicator is extinguished.
14	MT-7085/U Rack PDU	Set MAIN POWER (CB3) circuit breaker switch to OFF position and verify indicator is extinguished.
15	MT-7085/U Rack	Close MT-7085/U Rack front door.
16		Repeat steps 1-15 on second SB-4229(V)11/SP RSDS Rack. Perform steps as required based on the equipment installed in the MT-7085/U Rack.

* Step not applicable if equipment is not part of the SB-4229A(V)11/SP Configuration.

TEST DATA RECORDING

EQUIPMENT UNDER TEST

EQUIPMENT	SERIAL NO.
SB-4229A(V)11/SP RSDS	_____
MT-7085/U Rack	_____
CD-135/U Controller	_____
SM-902/U VSS	_____
RD-670/U RADCOR	_____

PREREQUISITES

32011-2-001 Power Distribution System Insulation Resistance Test

NOTE
Write “N/A” in ACTUAL RESULTS spaces for test sections where optional equipment is not present in the SB-4229A(V)11/SP RSDS under test.

TEST DATA RECORDING

STEP	TEST ELEMENT	EXPECTED RESULTS	ACTUAL RESULTS
3	J199		
	CONTACT		
	A to C	105 VAC to 125 VAC	_____VAC
	B to Chassis Ground	< 1 VAC	_____VAC
	A to C	≥50 to ≤63 Hz	_____Hz
7	PDU's SWITCHBOARD INDICATOR IS LIT		
	SWITCH BD (CB2) circuit breaker	Indicator is Lit	_____
8 (a)	MASTER CONTROL PANEL'S INDICATOR IS LIT		
	AC PWR switch and DC PWR indicator is lit for Upper chassis		_____
	AC PWR switch and DC PWR indicator is lit for Lower chassis		_____

SHIP HULL NO.	TEST CONDUCTOR SIGNATURE	GOVERNMENT WITNESS SIGNATURE	DATE

TEST DATA RECORDING

STEP	TEST ELEMENT	EXPECTED RESULTS	ACTUAL RESULTS
8 (b)	POWER SUPPLY INDICATOR IS LIT		
	Upper chassis Power Supplies PWR indicator switch is lit		_____
	Lower chassis Power Supplies PWR indicator switch is lit		_____
9	POWER SUPPLY MODULE FRONT PANEL LEDs		
	PS1 of Upper chassis		
	+5V	Lit (Green)	_____
	-5V	Lit (Green)	_____
	+15V	Lit (Green)	_____
	-15V	Lit (Green)	_____
	PS2 of Upper chassis		
	+5V	Lit (Green)	_____
	-5V	Lit (Green)	_____
	+15V	Lit (Green)	_____
	-15V	Lit (Green)	_____
	PS1 of Lower chassis		
	+5V	Lit (Green)	_____
	-5V	Lit (Green)	_____
	+15V	Lit (Green)	_____
	-15V	Lit (Green)	_____
	PS2 of Lower chassis		
	+5V	Lit (Green)	_____
	-5V	Lit (Green)	_____
	+15V	Lit (Green)	_____
	-15V	Lit (Green)	_____
10	MODULE CONT AND PWR LED'S		
	Upper chassis	All Lit (Green)	_____
	Lower chassis	All Lit (Green)	_____

SHIP HULL NO.	TEST CONDUCTOR SIGNATURE	GOVERNMENT WITNESS SIGNATURE	DATE

TEST DATA RECORDING

STEP	TEST ELEMENT	EXPECTED RESULTS	ACTUAL RESULTS
11	POWER SUPPLY TEST POINT VOLTAGES		
	PS1 for Upper chassis		
	+5V	+4.87 VDC to +5.39 VDC	_____VDC
	-5V	-4.87 VDC to -5.39 VDC	_____VDC
	+15V	+13.24 VDC to +14.64 VDC	_____VDC
	-15V	-13.24 VDC to -14.64 VDC	_____VDC
	PS1 for Lower chassis		
	+5V	+4.87 VDC to +5.39 VDC	_____VDC
	-5V	-4.87 VDC to -5.39 VDC	_____VDC
	+15V	+13.24 VDC to +14.64 VDC	_____VDC
	-15V	-13.24 VDC to -14.64 VDC	_____VDC
12	POWER SUPPLY TEST POINT VOLTAGES		
	PS2 for Upper chassis		
	+5V	+4.87 VDC to +5.39 VDC	_____VDC
	-5V	-4.87 VDC to -5.39 VDC	_____VDC
	+15V	+13.24 VDC to +14.64 VDC	_____VDC
	-15V	-13.24 VDC to -14.64 VDC	_____VDC
	PS2 for Lower chassis		
	+5V	+4.87 VDC to +5.39 VDC	_____VDC
	-5V	-4.87 VDC to -5.39 VDC	_____VDC
	+15V	+13.24 VDC to +14.64 VDC	_____VDC
	-15V	-13.24 VDC to -14.64 VDC	_____VDC
14	MAIN POWER PDU INDICATOR IS LIT		
	MAIN POWER (CB3) circuit breaker	Indicator is Lit	_____
15	FAN POWER PDU INDICATOR IS LIT AND FANS ROTATE		
	MAIN POWER (CB3) circuit breaker	Fans Indicator is Lit	_____
		Fans Rotate	_____
16	VSS INDICATOR IS LIT ON PDU		
	VSS PDU switch	Indicator is Lit	_____

SHIP HULL NO.	TEST CONDUCTOR SIGNATURE	GOVERNMENT WITNESS SIGNATURE	DATE

TEST DATA RECORDING

STEP	TEST ELEMENT	EXPECTED RESULTS	ACTUAL RESULTS
19	SM-902/U VSS POWER INDICATOR IS LIT		
	SM-902/U VSS AC POWER switch	Indicator is Lit	_____
20	SM-902/U VSS CIRCUIT CARD FRONT PANEL LEDs		
	a) Slot 1A1		
	P-FAIL	ON (Green)	_____
	B-BUSY	OFF	_____
	BERR	OFF	_____
	b) Slot 1A2		
	RUN	ON (Green)	_____
	c) RADDS Slots 1A5 and 1A11		
	SIM	ON	_____
	TM	ON	_____
	TE	ON	_____
	TMT	ON	_____
	RADDS OUT	ON	_____
	AIR	OFF	_____
	SUR	OFF	_____
	d) TARGET Slots 1A6 and 1A12		
	SIM	ON	_____
	TM	ON	_____
	TE	ON	_____
	TMT	ON	_____
	LIVE IN	OFF	_____
	LAND IN	OFF	_____
	TARG OUT	OFF	_____

_____	_____	_____	_____
SHIP HULL NO.	TEST CONDUCTOR SIGNATURE	GOVERNMENT WITNESS SIGNATURE	DATE

TEST DATA RECORDING

STEP	TEST ELEMENT	EXPECTED RESULTS	ACTUAL RESULTS
20	SM-902/U VSS CIRCUIT CARD FRONT PANEL LEDs		
	e) IFF Slots 1A7 and 1A13		
	SIM	ON	_____
	TM	ON	_____
	TE	ON	_____
	TMT	ON	_____
	MTC IN	OFF	_____
	TR IN	OFF	_____
	MTC OUT	OFF	_____
	TR OUT	OFF	_____
23	RD-670/U RADCOR INDICATOR IS LIT ON PDU		
	RADCOR PDU switch	Indicator is Lit	_____
24	RD-670/U RADCOR WITNESS INDICATOR/DISPLAY		
	Power	Indicator Lit Green	_____
	Health INPUT	Indicator Lit Red	_____
	Health OUTPUT	Indicator Lit Green	_____
	DSQM LCD Display	Displays “TRIGGER INPUT SLOT 7 FAILED”	_____
26	RD-670/U RADCOR RECORDER INDICATORS ARE LIT		
	RADCOR EJECT button	Button is Lit	_____
	RADCOR AUDIO LEVEL meters	Meters are Lit	_____
	RADCOR Time display	Time Display is Lit	_____
27	SWITCHER INDICATOR IS LIT ON PDU		
	SWITCHER PDU switch	Indicator is Lit	_____
28	SWITCHER POWER INDICATOR IS LIT		
	SWITCHER POWER LED	Indicator is Lit	_____
29	AUX INDICATOR IS LIT ON PDU		
	AUX PDU switch	Indicator is Lit	_____

SHIP HULL NO.	TEST CONDUCTOR SIGNATURE	GOVERNMENT WITNESS SIGNATURE	DATE

TEST DATA RECORDING

STEP	TEST ELEMENT	EXPECTED RESULTS	ACTUAL RESULTS
30	AUX INDICATOR IS EXTINGUISHED ON PDU		
	AUX PDU switch	Indicator is OFF	_____
31	UPS INDICATOR IS LIT ON PDU		
	UPS Power (CB1) circuit breaker	Indicator is Lit	_____
32	INPUT POWER INDICATORS ARE LIT ON UPS		
	UPS INPUT POWER switch	OK Indicator is Lit	_____
	BATTERY CHARGE LEDS	Indicates 100%	_____%
33	OUTPUT POWER OK INDICATOR IS LIT ON UPS		
	UPS OUTPUT POWER switch	OK Indicator is Lit	_____
38	CD-135/U Controller 748I COMPUTER POWER INDICATOR IS LIT		
	748I Computer Power switch	Indicator is Lit	_____
39	SYSTEM INITIALIZATION ON HMI DRAWER DISPLAY		
	Initializing System	OK	_____
	Starting networking	OK	_____
	Starting System Functions	OK	_____
	Starting Diagnostics	OK	_____
	Starting Auditing	OK	_____

SHIP HULL NO.	TEST CONDUCTOR SIGNATURE	GOVERNMENT WITNESS SIGNATURE	DATE

TEST DATA RECORDING

EQUIPMENT UNDER TEST

EQUIPMENT	SERIAL NO.
SB-4229A(V)11/SP RSDS	_____
MT-7085/U Rack	_____
CD-135/U Controller	_____
SM-902/U VSS	_____
RD-670/U RADCOR	_____

PREREQUISITES

32011-2-001 Power Distribution System Insulation Resistance Test

NOTE
Write “N/A” in ACTUAL RESULTS spaces for test sections where optional equipment is not present in the SB-4229A(V)11/SP RSDS under test.

TEST DATA RECORDING

STEP	TEST ELEMENT	EXPECTED RESULTS	ACTUAL RESULTS
42	Repeat of steps on second SB-4229A(V)11/SP RSDS Rack		
3	J199		
	CONTACT		
	A to C	105 VAC to 125 VAC	_____VAC
	B to Chassis Ground	< 1 VAC	_____VAC
	A to C	≥50 to ≤63 Hz	_____Hz
7	PDU's SWITCHBOARD INDICATOR IS LIT		
	SWITCH BD (CB2) circuit breaker	Indicator is Lit	_____
8 (a)	MASTER CONTROL PANEL'S INDICATOR IS LIT		
	AC PWR switch and DC PWR indicator is lit for Upper chassis		_____
	AC PWR switch and DC PWR indicator is lit for Lower chassis		_____

SHIP HULL NO.	TEST CONDUCTOR SIGNATURE	GOVERNMENT WITNESS SIGNATURE	DATE

TEST DATA RECORDING

STEP	TEST ELEMENT	EXPECTED RESULTS	ACTUAL RESULTS
8 (b)	POWER SUPPLY INDICATOR IS LIT		
	Upper chassis Power Supplies PWR indicator switch is lit		_____
	Lower chassis Power Supplies PWR indicator switch is lit		_____
9	POWER SUPPLY MODULE FRONT PANEL LEDs		
	PS1 of Upper chassis		
	+5V	Lit (Green)	_____
	-5V	Lit (Green)	_____
	+15V	Lit (Green)	_____
	-15V	Lit (Green)	_____
	PS2 of Upper chassis		
	+5V	Lit (Green)	_____
	-5V	Lit (Green)	_____
	+15V	Lit (Green)	_____
	-15V	Lit (Green)	_____
	PS1 of Lower chassis		
	+5V	Lit (Green)	_____
	-5V	Lit (Green)	_____
	+15V	Lit (Green)	_____
	-15V	Lit (Green)	_____
	PS2 of Lower chassis		
	+5V	Lit (Green)	_____
	-5V	Lit (Green)	_____
	+15V	Lit (Green)	_____
	-15V	Lit (Green)	_____
10	MODULE CONT AND PWR LED'S		
	Upper chassis	All Lit (Green)	_____
	Lower chassis	All Lit (Green)	_____

SHIP HULL NO.	TEST CONDUCTOR SIGNATURE	GOVERNMENT WITNESS SIGNATURE	DATE

TEST DATA RECORDING

STEP	TEST ELEMENT	EXPECTED RESULTS	ACTUAL RESULTS
11	POWER SUPPLY TEST POINT VOLTAGES		
	PS1 for Upper chassis		
	+5V	+4.87 VDC to +5.39 VDC	_____VDC
	-5V	-4.87 VDC to -5.39 VDC	_____VDC
	+15V	+13.24 VDC to +14.64 VDC	_____VDC
	-15V	-13.24 VDC to -14.64 VDC	_____VDC
	PS1 for Lower chassis		
	+5V	+4.87 VDC to +5.39 VDC	_____VDC
	-5V	-4.87 VDC to -5.39 VDC	_____VDC
	+15V	+13.24 VDC to +14.64 VDC	_____VDC
	-15V	-13.24 VDC to -14.64 VDC	_____VDC
12	POWER SUPPLY TEST POINT VOLTAGES		
	PS2 for Upper chassis		
	+5V	+4.87 VDC to +5.39 VDC	_____VDC
	-5V	-4.87 VDC to -5.39 VDC	_____VDC
	+15V	+13.24 VDC to +14.64 VDC	_____VDC
	-15V	-13.24 VDC to -14.64 VDC	_____VDC
	PS2 for Lower chassis		
	+5V	+4.87 VDC to +5.39 VDC	_____VDC
	-5V	-4.87 VDC to -5.39 VDC	_____VDC
	+15V	+13.24 VDC to +14.64 VDC	_____VDC
	-15V	-13.24 VDC to -14.64 VDC	_____VDC
14	MAIN POWER PDU INDICATOR IS LIT		
	MAIN POWER (CB3) circuit breaker	Indicator is Lit	_____
15	FAN POWER PDU INDICATOR IS LIT AND FANS ROTATE		
	MAIN POWER (CB3) circuit breaker	Fans Indicator is Lit	_____
		Fans Rotate	_____
16	VSS INDICATOR IS LIT ON PDU		
	VSS PDU switch	Indicator is Lit	_____

SHIP HULL NO.	TEST CONDUCTOR SIGNATURE	GOVERNMENT WITNESS SIGNATURE	DATE

TEST DATA RECORDING

STEP	TEST ELEMENT	EXPECTED RESULTS	ACTUAL RESULTS
19	SM-902/U VSS POWER INDICATOR IS LIT		
	SM-902/U VSS AC POWER switch	Indicator is Lit	_____
20	SM-902/U VSS CIRCUIT CARD FRONT PANEL LEDs		
	a) Slot 1A1		
	P-FAIL	ON (Green)	_____
	B-BUSY	OFF	_____
	BERR	OFF	_____
	b) Slot 1A2		
	RUN	ON (Green)	_____
	c) RADDS Slots 1A5 and 1A11		
	SIM	ON	_____
	TM	ON	_____
	TE	ON	_____
	TMT	ON	_____
	RADDS OUT	ON	_____
	AIR	OFF	_____
	SUR	OFF	_____
	d) TARGET Slots 1A6 and 1A12		
	SIM	ON	_____
	TM	ON	_____
	TE	ON	_____
	TMT	ON	_____
	LIVE IN	OFF	_____
	LAND IN	OFF	_____
	TARG OUT	OFF	_____

_____	_____	_____	_____
SHIP HULL NO.	TEST CONDUCTOR SIGNATURE	GOVERNMENT WITNESS SIGNATURE	DATE

TEST DATA RECORDING

STEP	TEST ELEMENT	EXPECTED RESULTS	ACTUAL RESULTS
20	SM-902/U VSS CIRCUIT CARD FRONT PANEL LEDs		
	e) IFF Slots 1A7 and 1A13		
	SIM	ON	_____
	TM	ON	_____
	TE	ON	_____
	TMT	ON	_____
	MTC IN	OFF	_____
	TR IN	OFF	_____
	MTC OUT	OFF	_____
	TR OUT	OFF	_____
23	RD-670/U RADCOR INDICATOR IS LIT ON PDU		
	RADCOR PDU switch	Indicator is Lit	_____
24	RD-670/U RADCOR WITNESS INDICATOR/DISPLAY		
	Power	Indicator Lit Green	_____
	Health INPUT	Indicator Lit Red	_____
	Health OUTPUT	Indicator Lit Green	_____
	DSQM LCD Display	Displays “TRIGGER INPUT SLOT 7 FAILED”	_____
26	RD-670/U RADCOR RECORDER INDICATORS ARE LIT		
	RADCOR EJECT button	Button is Lit	_____
	RADCOR AUDIO LEVEL meters	Meters are Lit	_____
	RADCOR Time display	Time Display is Lit	_____
27	SWITCHER INDICATOR IS LIT ON PDU		
	SWITCHER PDU switch	Indicator is Lit	_____
28	SWITCHER POWER INDICATOR IS LIT		
	SWITCHER POWER LED	Indicator is Lit	_____
29	AUX INDICATOR IS LIT ON PDU		
	AUX PDU switch	Indicator is Lit	_____

SHIP HULL NO.	TEST CONDUCTOR SIGNATURE	GOVERNMENT WITNESS SIGNATURE	DATE

TEST DATA RECORDING

STEP	TEST ELEMENT	EXPECTED RESULTS	ACTUAL RESULTS
30	AUX INDICATOR IS EXTINGUISHED ON PDU		
	AUX PDU switch	Indicator is OFF	_____
31	UPS INDICATOR IS LIT ON PDU		
	UPS Power (CB1) circuit breaker	Indicator is Lit	_____
32	INPUT POWER INDICATORS ARE LIT ON UPS		
	UPS INPUT POWER switch	OK Indicator is Lit	_____
	BATTERY CHARGE LEDS	Indicates 100%	_____%
33	OUTPUT POWER OK INDICATOR IS LIT ON UPS		
	UPS OUTPUT POWER switch	OK Indicator is Lit	_____
38	CD-135/U Controller 748I COMPUTER POWER INDICATOR IS LIT		
	748I Computer Power switch	Indicator is Lit	_____
39	SYSTEM INITIALIZATION ON HMI DRAWER DISPLAY		
	Initializing System	OK	_____
	Starting networking	OK	_____
	Starting System Functions	OK	_____
	Starting Diagnostics	OK	_____
	Starting Auditing	OK	_____

SHIP HULL NO.	TEST CONDUCTOR SIGNATURE	GOVERNMENT WITNESS SIGNATURE	DATE
_____	_____	_____	_____

TEST EQUIPMENT USED

List all test equipment utilized in the test including all general and specialized test equipment, special test cables, attenuators, and any other materials requiring calibration. Include extra sheets as necessary to identify all test equipment.

GENERIC NAME	MODEL	SERIAL NO.	CALIBRATION DUE DATE	REMARKS

SHIP HULL NO.	TEST CONDUCTOR SIGNATURE	GOVERNMENT WITNESS SIGNATURE	DATE

COMMENTS

This sheet is provided for the test conductor or Government witness to make appropriate comments including the following:

a. Visual observations of dynamic responses;
b. Erratic or unusual equipment behavior;
c. Operational or handling difficulties;
d. Procedural corrections;
e. Equipment malfunctions;
f. Discrepancies noted during test conduct; and,
g. Waivers including reference to authorization document, i.e., letter, message, etc.

Indicate if a Test Problem Report (TPR) was generated with respect to these or other problems.

SHIP HULL NO.	TEST CONDUCTOR SIGNATURE	GOVERNMENT WITNESS SIGNATURE	DATE